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# AIR WAR COLLEGE

## RESEARCH REPORT

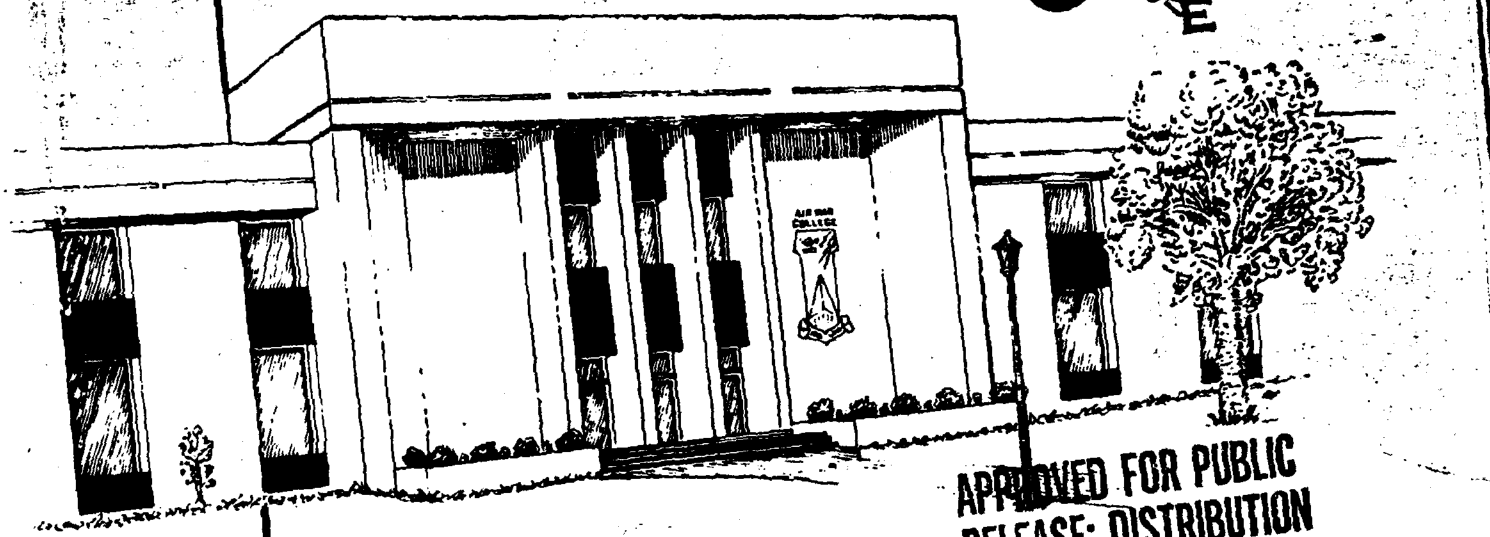


CONTRACTOR-OPERATED PARTS STORES: IS CHANGE OVERDUE?

COLONEL VICTOR D. BRAS

1988







AIR UNIVERSITY
UNITED STATES AIR FORCE
MAXWELL AIR FORCE BASE, ALABAMA

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# CONTRACTOR-OPERATED PARTS STORES: IS CHANGE OVERDUE?

by

Victor D. Bras
Colonel, USAF

A RESEARCH REPORT SUBMITTED TO THE FACULTY

IN

FULFILLMENT OF THE RESEARCH

REQUIREMENT

Research Advisor: Colonel Richard A. Steeves

MAXWELL AIR FORCE BASE, ALABAMA

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## AIR WAR COLLEGE RESEARCH REPORT ABSTRACT

TITLE: Contractor-Operated Parts Stores: Is Change Overdue?

AUTHOR: Victor D. Bras, Colonel, USAF


Examines the contracting-out of the vehicle parts supply function at Air Force installations. The study is an analytic review of policy, procedures, contract legalities, and results of Office of Management and Budget Circular A-76 guidance in an area criticized by the General Accounting Office over six years ago. The author concludes that flaws in the contractor-operated parts store (COPARS) concept and solicitation process lead to inaccurate cost studies, inappropriate decisions, and inadequate contract controls. He recommends a revision of the standard COPARS contract and management latitude for installation commanders to keep the parts supply function under government operation.


[illegible] GOPARS ([illegible] Operated Parts Stores) [illegible]

## BIOGRAPHICAL SKETCH

Colonel Victor D. Bras (B.S. Economics, Fordham University; M.B.A., University of Missouri) developed his interest in government procurement practices in assignments as the Deputy Wing Commander for Resource Management, Grand Forks AFB, ND, and as Senior Staff Analyst in the Office of the Special Assistant for MX Matters, Headquarters USAF, DCS Research Development & Acquisition. Colonel Bras is an ICBM specialist and has served as a combat crew member, a test team member with the Strategic Air Command (SAC) flight test program, the SAC Program Element Monitor for the Minuteman ICBM System, and a staff officer at HQ USAF DCS Operations. He spent academic year 1983 as a Research Associate at Columbia University in New York. He was the squadron commander of the 447th Strategic Missile Squadron, Grand Forks AFB, ND, from Aug 1983 to Feb 1985. Colonel Bras is a graduate of Squadron Officer School in residence, a distinguished graduate of Armed Force Staff College, and a graduate of Air War College, class of 1988.

TABLE OF CONTENTS

# SECTION I

## INTRODUCTION

> "If given the option to change...HQ SAC/LGT would elect to retain current COPARS operation. Without documented tests utilizing like criteria, which provide substantiated proof that GOPARS would be better, in their eyes there is no reason to change." (14:Atch 1/1)

This study challenges the policy that directs the contracting-out of the vehicle parts supply function at Air Force installations. It analyzes past procedures, decisions, and results relating to Strategic Air Command (SAC) contractor-operated parts stores (COPARS) and government-operated parts stores (GOPARS). The purpose of this paper is to provide an additional perspective for decisions about to be made at the departmental and agency levels of government.

A large part of this study is devoted toward examining Federal, Department of Defense (DoD), and Air Force policy and procedures in light of fundamental contract issues first raised by the General Accounting Office (GAO) over six years ago. This examination raises regulatory concerns that warrant validation and may require immediate action.

Finally, the study presents a postmortem comparison between predicted and actual results from contracting-out procedures. It shows the impact of contracting-out on the cost and the efficiency of the vehicle maintenance function at Grand Forks AFB, ND. I believe that the data support growing skepticism about the appropriateness of Office of Management and Budget (OMB) Circular A-76 procedures for some contracting-out decisions.

SECTION II

THE CONTRACTING-OUT PROCESS

OMB Circular A-76 Procedures

OMB Circular A-76 provides guidelines for determining whether functions should be performed by government employees or by private firms under contract. It applies to activities that are not essential for combat or other vital military operations. (24:13) Within the Air Force, the Director of Manpower and Organization (HQ USAF/MPM) decides the activities that fall into the nonessential category and directs A-76 cost studies to provide data for contracting-out decisions. (28:2-4)

OMB Circular A-76 cost studies compare the government's "in-house" cost of operation to potential contractors' bids for the same service. The A-76 guidelines specify how to compute government costs and what adjustments to make to the contractors' bids for comparison purposes. For example, typical upward adjustments to contractors' offerings are additions for contract administration, severance pay for government employees, and transition expenses. A typical downward adjustment required to bids is a reduction for the federal income tax revenues that the private firm is anticipated to pay on profits and, thus, return to the government as revenue. (24:14)

Chart 1 illustrates an A-76 cost comparison form for a one year contract with two renewal options. In this example, the contracting-out decision would be based on total expected costs or savings over the three-year period.

Chart 1. (2:iii)

## COST COMPARISON FORM

| | Performance Periods | | | |
|---|---|---|---|---|
| In-house Performance: | 1st | 2nd | 3rd | Total |
| 1. Personnel Costs | | | | |
| 2. Material and Supply Costs | | | | |
| 3. Other Specifically Attributable Costs | | | | |
| 4. Overhead Costs | | | | |
| 5. Cost of Capital | | | | |
| 6. One-time Costs | | | | |
| 7. Additional Costs | | | | |
| 8. Total In-house Costs | | | | |
| Contract Performance: | | | | |
| 9. Contract Price | | | | |
| 10. Contract Administration | | | | |
| 11. Additional Costs | | | | |
| 12. One-time Conversion Costs | | | | |
| 13. Gain or Loss on Disposal of Assets | | | | |
| 14. Federal Income Tax (Deduct) | | | | |
| 15. Total Contract Costs | | | | |
| Decision: | | | | |
| 16. Conversion Differential | | | | |
| 17. Total (Lines 8 & 16) | | | | |
| 18. Cost Comparison (Line 17 minus Line 15) | | | | |

Do the cost comparison calculation only for the total column.

A positive result on Line 18 supports a decision to accomplish function by contract.

19. Cost Comparison Decision (check block) — Accomplish In-house / Accomplish by Contract

Source: 321SMW/ACC

## Federal Policy

Federal policy is that "Whenever commercial sector performance of a government operated activity is permissible...comparison of the cost of contracting and the cost of in-house performance shall be performed to determine who will do the work." A commercial activity is defined as a "product or service which can be obtained from a commercial source." (25:2)

OMB Circular No. A-76 lists the vehicle maintenance function among the examples of commercial activities normally subject to its policy of privatization. (25:8-9) It also states that "a commercial activity may be part of an organization or type of work that is separable from other functions or activities and is suitable for performance by contract." (25:2) Thus, through Circular No. A-76, OMB establishes vehicle parts supply as a candidate for contracting-out.

OMB's Office of Federal Procurement Policy (OFPP) Pamphlet No. 4 entitled "A Guide for Writing and Administering Performance Work Statements for Service Contracts" describes how to write work statements and quality assurance plans. The work statements and assurance plans are the basis for a cost comparison between government and contractor performance using factors and guidelines prescribed in the "Cost Comparison Handbook" which is Supplement No. 1 to A-76. (3:42)

The Cost Comparison Handbook provides specific guidance when accomplishing a cost comparison for a portion (e.g. COPARS) of a workcenter's (e.g. vehicle maintenance's) effort. The handbook instructs an assessment of the impact on remaining operations and directs that associated costs be added to the contractor's offer. In chapter 5, paragraph F 4, the handbook states:

> "When the decision to contract-out will result in the work center(s) operating at less than its present level of utilization, the costs attributable to underutilized capacity must be determined. In these cases, some overhead costs...may continue...must be absorbed by the remaining activities. The additional amount to be absorbed is a cost of contracting out."

The Government Accounting Office Perspective

The Government Accounting Office (GAO) is the federal agency primarily concerned with faulty comparisons as a basis for incorrect procurement determinations. Generally, the GAO reviews are intended as a last recourse to protect arbitrary rejection of contractors' bids by the government rather than as a policing of agency discretion in contracting-out policy. (3:44-45) However, in 1981, GAO conducted two studies that transcended its traditional role in the A-76 process.

In April 1981, GAO completed a review of 12 separate DoD contracting decisions and published GAO Report No. PLRD 81-19, "Factors Influencing DoD Decisions to Convert from In-House to Contract Performance." The GAO found a pattern of questionable cost comparison practices that underestimated contract costs and overestimated in-house costs in every decision reviewed. (15:5) The GAO also observed that DoD was perhaps looking at the definition of "inherent government function" too narrowly. The GAO stated that inherent government functions could include operations beyond those affecting readiness and vulnerability in wartime. The GAO suggested that DoD consider whether performance of a function by an outside contractor could interfere with policy, decision making, or management functions basic to the government agency's mission. (15:16-17)

In Jul 81, GAO published its other watershed report with regard to A-76. The report was entitled "Military Contractor-Operated Stores Contracts are Unmanageable and Vulnerable to Abuse." The GAO report examined COPARS and contractor-operated civil engineering stores (COCESS). COCESS serves a hardware store type function for base civil engineering just as COPARS serves an automobile parts store function for vehicle

maintenance. The following were among the report's observations and recommendations:

- "GAO believes some aspects of the store contracts are uncontrollable and will continue to result in the government paying higher prices than are available in the commercial market. By awarding exclusive store contracts, the bases are unable to exercise their prerogative to bargain for items readily available in nearby local commercial markets at competitive prices." (23:ii)

- "The Air Force believes that, in total, it pays less by using store contracts. A cost study conducted by the Strategic Air Command, however, shows this is not the case. The 1976 cost study showed that one base could buy its own civil engineering supplies at a net savings of 12 percent annually using a Government-operated store which was responsive to civil engineering needs." (23:iii-iv)

- "Thus, the A-76 study is an altogether untrustworthy means of determining whether COPARS/COCESS concepts are, in the words of the Acting Assistant Secretary, "more economical" than the direct purchasing concept which this report demonstrates to be an extremely more workable and economical alternative." (23:57)

- "...We conclude that the implementation of the contractor-operated store concept is unsound, unmanageable, and exposes the Government to potential fraud, waste, and abuse. We believe the contracts should be discontinued." (23:57)

- "If the Secretary of Defense determines that an A-76 study is unnecessary (see pp 56 and 57), he should direct the military services to discontinue the COPARS and COCESS contracting program with as little disruption of maintenance as possible. As each COPARS and COCESS contract expires, it should not be renewed." (23:iv)

## Department of Defense Policy

In his 16 Sep 81 letter to GAO concerning the preceding, Mr James N. Juliana, Principal Deputy Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) established the DoD COPARS/COCESS policy that is still in existence today. His letter states:

"The conduct of OMB Circular A-76 studies has been determined to be necessary. It is believed that the only equitable way to judge the merit and performance of individual stores is through individual cost studies." (10:1)

In May 1982, a Defense Audit Service (DAS) memorandum to Mr Juliana indicates that his confidence in A-76 cost studies concerning contractor-operated stores was more a matter of faith than a matter of fact at the time of his Sep 1981 response to GAO. Commenting on the GAO report's observations in the memorandum (20) to the Deputy Assistant Secretary of Defense (Logistics and Material Management), DAS states:

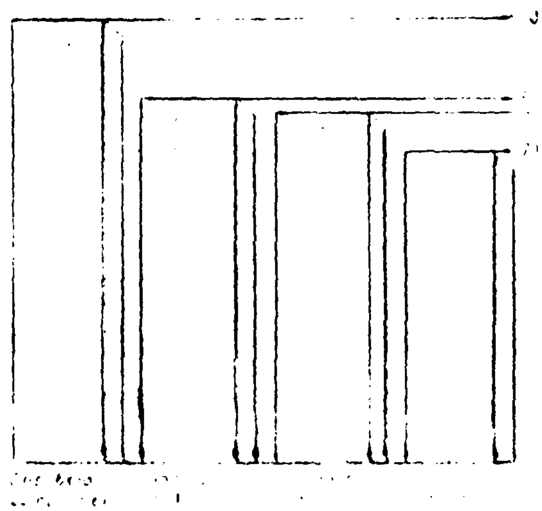
"Our review of the internal control systems indicates that most of the significant deficiencies pointed out in the GAO report can be substantially minimized, if not eliminated, provided that recently developed quality assurance and contract administration plans are adopted and effectively executed at all locations.

The comparative cost studies that have been made since 1977 were too few to provide a basis for substantive opinion on the relative efficiency of the operations, i.e. contractor operation versus Government (in-house) operation. None of the Services had completed adequate cost studies to support a conclusion that either contracting-out these types of operations or keeping them in-house is more cost effective." (20:1-2)

In view of the questionable validity of A-76 COPARS/COCESS cost comparisons, it is difficult to understand DoD's unwaivering commitment to the process. A skeptical view would be that decisions based on A-76 studies always allow the decision makers to take credit for a theoretical reduction in operating costs. The result on paper can be impressive. As shown in Chart 2, the DoD claims to have saved an impressive 21 percent by competing 1054 operations affecting some 35,500 jobs between 1979 and 1984. (4:3)

Chart 2. (4:3)

The Effect of Commercial-Activity Competitions on Cost, 1979-1984



However, it isn't clear that there is always substance to claims of A-76 savings. The government's A-76 cost estimate and the contractors' bids are projections of hypothetical costs and efficiencies. While it is easy to take credit for the differences between government estimates and lower projected contractor costs, it may not be accurate. (1:56) Section IV will show that a postmortem of data after contract award could prove an A-76 cost saving projection to be quite inaccurate. Furthermore, bureaucratic claims based on A-76 comparisons do not take into account hidden costs such as the potential of disruptions from contractor defaults and other statistically recurring problems. For example, over a five year period, Charleston AFB, NC, had contractual problems with four different food service contractors resulting in the operation returning to the government for periods of 30, 60, and 90 days. (15:14)

Concern for contracting realities resulted in language on pages 58 and 59 of the 1988 Defense Appropriations Bill questioning whether contracting-out under OMB Circular A-76 saves money in the long-term. The bill encourages DoD to recompete functions currently under contract and to consider returning contracted functions to government operation. In a similar spirit, Section 1111 of the 1988 Defense Authorization Bill directs the Secretary of Defense to delegate to installation commanders authority concerning current in-house operations to "Decide which commercial activities shall be reviewed under procedures and requirements of Office of Management and Budget A-76..." for a limited period of two years terminating on 1 Oct 89. An important point is that the authorization language doesn't explicitly allow installation commanders the option to reconvert, or even to recompete, functions currently contracted-out under previous OMB Circular A-76 competitions.

## Air Force Policy

Meanwhile, the United States Air Force has gone on record concerning specific issues of COPARS and COCESS. In a Dec 87 memorandum (18) to the Deputy Assistant Secretary (Installations), the Assistant Secretary of the Air Force for Resources and Logistics (SA/RL) wrote:

> "In response to a GAO Report on 'Military Contractor-Operated Stores' Contracts are Unmanageable and Vulnerable to Abuse', (GAO MASAD-81827), you stated that the Contractor Operated Parts Store (COPARS) and the Contractor Operated Civil Engineering Supply (COCESS) operations will be reviewed in accordance with the Executive policy set forth in OMB Circular A-76 and will be converted to a Government operation in those cases where such conversion is found to be justified.
>
> The attached requests (Atch 1, 2, and 3) are to exclude COPARS/COCESS from OMB Circular A-76 procedures for determining the appropriate mode of operation. Authority should be delegated to the MAJCOM or Installation Commander to determine the mode of operation that best suits local circumstances and mission needs.

COPARS/COCESS operations predominantly involve purchase of supplies. Only minimal manpower is involved. Contracts that represent purchase of supplies and determining the most economical cost for purchase of supplies are not normally subjected to costing under OMB Circular A-76 procedures. OMB A-76 costing procedures are best suited for labor-intensive "service contract" type activities.

The Air Force supports these proposals and, once approved, we would provide MAJCOMs the guidance needed to implement these proposals Air Force-wide, i.e., documentation and justification requirements, etc.

We do not have the authority to approve these proposals. These proposals require a waiver to your policy as stated above (Atch 4)."

## SAC Policy

Unless Congress or the DoD specifically allow installation (base) commanders discretionary authority in contracting functions, SAC will continue to instruct its installations to retain the current COPARS contract operation. In a 28 Sep 87 letter (14) to HQ USAF Programs and Requirements, Col Lefler, SAC Director of Manpower and Organization, states:

> "If given a choice, SAC would not apply A-76 cost comparison procedures to either type of contract since they are predominantly supply parts (88 to 93%) contract (sic) rather than a (sic) service (7 to 12%) oriented contract. (sic) SAC wants to retain their (sic) COPARS contract, but prefers to convert to a GOCESS operation command-wide."

In the accompanying position paper to the SAC/XPM letter, it is clear that the SAC position is based on its transportation directorate's (SAC/LGT) opinion that COPARS "...provides better service and is the preferred method.." to the in-house GOPARS operation. In the same position paper, the SAC contracting (SAC/LGC) and SAC supply (SAC/LGS) directorates take the position that they could support installation commanders on either method of operation. (14:PP:2)

## SECTION III

## THE COPARS CONTRACT

### Background

SAC/LGC's support for an installation commander option in the COPARS/GOPARS issue comes in the wake of significant disagreement with Grand Forks AFB leadership about the standard SAC/LGT COPARS contract format. In Mar 85, SAC/LGC directed that the SAC format "...will be used for all future COPARS solicitations including those currently 'on the street.'" The letter specified that requests for deviation had to be approved by SAC/LGCC and LGTV. (11:1) Grand Forks AFB personnel wanted changes to the contract that they believed would hold a contractor to a level of performance comparable to an in-house operation and would provide a more accurate basis for an A-76 cost study.

The SAC standard COPARS contract is a unique document. (7:1) It commits the government to buy vehicle parts from a contractor at predetermined percentage discounts from prices listed in current manufacturers' catalogs but which are subject to future change. Prospective bidders develop comparative dollar estimates as bids by individually projecting quantities for different categories of parts and by applying individual industry knowledge to the types and numbers of vehicles in the base fleet. Although contractors submit their bids comprised of a total of estimated prices for each category of parts, the government doesn't get a commitment as to the actual cost of the contract. In fact, the government doesn't even know the quantities of parts that each bid represents. (8:Atch 3/1-2)

## Attempted Modification

In Dec 1985, prior to the last A-76 cost competition for its vehicle parts supply function, Grand Forks AFB transportation (321SMW/LGT) requested SAC/LGT and SAC/LGC to modify the SAC standard COPARS contract. This was an attempt to require contractor performance more nearly resembling the government's historical level of performance. Table 1 shows major changes requested by Grand Forks AFB and the SAC's responses to each item. (13)

Table 1. (13:1-2)

Attempted Modifications of SAC Standard Contract

| 321SMW/LGT Request | HQ SAC Action |
|---|---|
| - 10% maximum out of stock rate for parts | - 20% allowed |
| - 4 work hour delivery time for parts required for vehicles deadlined for parts (VDP) if available in the local area | - 5 work hours allowed |
| - 60% credit of selling price for returned items | - Same credit as granted the contractor by his supplier |
| - monthly back order listing of parts in specific sequence | - monthly listing without specific sequence |

The changes sought by 321SMW/LGT were neither radical nor new. They were consistent with a 1982 memorandum (17) concerning COPARS from the Air Force Deputy Assistant Secretary (Logistics and Communication) to the Air Force Assistant Vice Chief of Staff which stated:

"Consideration should be given to using modified A-76 Cost Handbook Methodology. Estimates of responsiveness - supply availability, VDP rate, etc., should be documented in the study."

Challenge to SAC Standard COPARS Contract

In Jan 87, the Grand Forks AFB contracting division (321SMW/LGC) went beyond requesting changes and challenged SAC/LGC concerning the fundamental nature of the SAC standard COPARS contract. (8) In Feb 87, SAC/LGC responded by countering each objection raised by 321SMW/LGC. (12) Subsequently, the 321SMW Deputy Commander for Resource Management (321SMW/RM) forwarded all documents to the Air Force Institute of Technology School of Pricing (AFIT/LOS) for "expert opinion" on the objections to the format and SAC's reclama.

Three AFIT/LQS faculty members reviewed the issue and substantially confirmed 321SMW concerns about the standard COPARS format's affect on contractor performance, its impact on A-76 cost competition, and its compliance with legal guidelines of the Federal Acquisition Regulations (FAR). The AFIT faculty members made the following observations:

- "The contract type is definitely not a firm fixed price contract..." (7:1) as claimed by SAC/LGC. (8:2)

- "Far from simply an issue of semantics, the misclassification of flexibly priced contracts to the category **firm fixed price** increases risk of excess cost to the Government through fraud, waste, and abuse." (7:2)

- "The contract ...appears to be a form of a cost plus percentage of cost (CPPC) arrangement which ...guarantees contractor overrecovery of operating expenses as the manufacturers increase catalog prices." (7:1)

- "While in a idealistic sense a competitive contract award and fair and reasonable prices might be possible with the SAC format, real world issues make it unlikely that the contract results in price competition or fair and reasonable prices." (7:1,6-8)

The AFIT/LOS letter to 321SMW/RM stated that the professors were aware that the Air Force Audit Agency had apparently given COPARS good marks in a Jun 86 report entitled "Review of Air Force Contractor-Operated Parts Stores (COPARS) Contracts." (7:2) They referred to the report's cover memorandum (27:1) to the Secretary of the Air Force which states:

> "We concluded that Air Force COPARS, at the 13 installations reviewed, provided cost-effective and timely vehicle parts support. COPARS contracts adequately expressed vehicle maintenance support requirements as to quantity, quality, and timeliness. Air Force guidance effectively provided the procedures and controls necessary to administer COPARS contracts, surviel contractor performance, and deter fraud, waste, and abuse..."

However, in their letter (7:2) to the 321SMW/RM the AFIT faculty members stated that:

> "We are aware that the Air Force Audit Agency recently completed a centrally directed audit of COPARS, project 5076513, dated 19 Jun 1986, titled "REVIEW OF AIR FORCE CONTRACTOR-OPERATED PARTS STORES (COPARS) CONTRACTS". The audit manager for the project informed us that the audit review did not include the COPARS pricing methodology. The audit did not approve or address the pricing of COPARS (Audit Manager-John Brotbeck, AV 787-5439)."

## Major Contract Issues

Grand Forks AFB personnel believed that the pricing issues in the SAC standard COPARS contract format violated federal law as prescribed in the FAR. They claimed that the standard contract was disadvantageous to the government and biased the A-76 cost competition to such a degree that a government operation could not win even in those cases when in-house performance would be preferable to contractor performance. The following is a review of the 321SMW/LGC challenges, SAC/LGC rebuttals, and AFIT/LSO expert opinions concerning four major issues raised by Grand Forks AFB personnel:

1. Designation of COPARS as a firm-fixed-priced contract.

a. 321SMW/LGC Challenge: "THE CONTRACT IS INACCURATELY DESIGNATED AS A FIRM FIXED PRICE TYPE OF CONTRACT:" (8:Atch 3/1)

- "In firm-fixed price contracts, the price is not subject to any adjustment on the basis of the contractor's cost experience in the (sic) performing the contract (FAR 16.201-1). However, the SAC standard COPARS format, supposedly a firm fixed price contract, inconsistently allows price changes (price list revisions, updates, supplements, etc) at the unilateral option of the contractor's source (manufacturer) at any time and at any frequency. Furthermore, it does not control or restrict the extent of price increases, such as a guarantee that the manufacturers will publish "list" prices in price lists with the same mark up throughout the life of the contract, with the same competitive edge in the marketplace (via SF 1412 documentation of proof), or an agreed upon maximum inflation/escalation rate." (8:Atch 3/1)

- "The uncertainties of quantities and prices of spare parts for a vehicle fleet appear too great to justify a firm-fixed price contract." (8:Atch 3/1)

- "Firm fixed prices as prescribed by FAR are not synonymous with firm fixed discounts off of changing prices as described in the COPARS contract format. A fixed price has a ceiling beyond which the government bears no responsibility for payment (FAR 16.202-1 and ASPM Page B-5)." (8:Atch 3/1)

b. SAC Rebuttal: "The contract is a firm-fixed price contract." (12:2)

- "The contract is a firm fixed-priced contract. A part price listed in the contractor's price list, less the discount computed at the rate specified in the contract, is the firm fixed-price for that part. Price changes are not a unilateral option of a contractor's source. Price list changes require approval of the contracting officer and incorporation into the contract." (12:2)

- "If the parts acquired were peculiar to the Air Force and required costly production commitment by the contractor, the uncertainties of quantities and prices warrant use of other than a firm fixed-price contract to facilitate sharing of cost risks by the government. However, the spare parts required are off-the-shelf items sold to the public in substantial quantities, prices are determined by competition in the open market, the risks can be minimized/controlled with fixed prices for parts (as evident by companies operating parts stores to the public), and offering of discounts to commercial, regular customers is a common practice. The contractor assumes less risk than does a public parts store operator because some cost risk is offset by the receipt of the service charges." (12:2)

- "The contract with price list and specified discount, is a firm fixed-price contract. The contracting officer does not have to approve new price lists submitted by the contractor. However, on any firm fixed-price supplies contract with an unspecified quantity, the contracting officer has authority to renegotiate price prior to order of the supplies, if the contracting officer has reason to believe the current price is no longer fair and reasonable and if such negotiation is not in violation of the terms of the contract." (12:2)

c. AFIT/LSO Expert Opinion: "The COPARS pricing arrangement does not constitute a firm-fixed-price system of contracting." (7:2)

- "During the Air Force Audit Agency centrally directed audit of firm fixed price level of effort contracts, project 3040116, a key area of dispute involved in the definition of a firm fixed priced contract...A contract incorrectly classified as a firm fixed priced contract will receive reduced audit and administrative oversight. We recognize the positive aspects of classifying contracts as firm-fixed-price, such as reduced administration and more favorable reporting statistics, but lessons learned have made us aware of the disastrous consequences of misuse and misclassification of contract types.' (7:2)

- "FAR 16.202-1 states 'A firm-fixed-price contract provides for a price that is not subject to any adjustment on the basis of the contractor's cost experience in performing the contract.' In COPARS, as the contractor's cost increases (pricing updates), the prices to the Government increases. NPL increase also appear to be inconsistent with the FFP definition. The contractor can also increase his costs (and the Government's) by failing to energetically comply with the PARTS PRICING CRITERIA stated on contract page F-1. The safeguard imposed on page F-2, paragraph c, is commendable but would not appear an adequate safeguard to protect against deliberate attempts to maintain, and therefore provide, higher priced parts. A conscientious OAE must live with the restraints of providing a needed part on time. The current COPARS format is also inconsistent with an indefinite delivery contract that may provide for firm-fixed-prices (FAR 16.501). The requirement for contracting officer approval would not appear to be adequate to purify the contract. A full audit review would include an evaluation of the effectiveness of the contracting officer's review and approval procedures." (7:2)

- "To maintain the integrity of the firm-fixed-price classification, each approval should be the equivalent of a modification to a firm-fixed-price contract. Disclosure of inadequate approval reviews would be considered as evidence of a blanket rubber-stamp methodology." (7:2)

- "Catalog pricing methodology assumes that since the general public is willing to buy significant quantities of the item at the stated catalog price (which would include provisions for quantity discounts), the price is fair and reasonable...The catalog pricing issue is totally inapplicable to the COPARS issue. In COPARS, verification would probably disclose that most manufacturer sales would be at significant discounts from the catalog price. Dealer

organizations are probably the manufacturer's major customers...Under these circumstances, no reliance can be placed on the underlying rationale for catalog pricing...As applied under COPARS, the rationale would be similar to buying an automobile and paying list price." (7:7)

- (Referring to a 23 Mar 84 memo issued by Assistant General Counsel of the Air Force Daniel Rak concerning the subject of firm-fixed-price) "Reference the legal opinion from the Assistant General Counsel. In the section applicable to this issue, I challenged that firm-fixed-priced-level-of-effort contracts with recoupment clause could not be classified as firm-fixed-price contracts because total hours could not be estimated and therefore the final price was not fixed. I considered the FFPLOE effort more similar to a time and material contract than a firm-fixed-type. The General Counsel's position stated that clauses which eliminated the "firm" portion of the firm-fixed-price contract created an improper and unauthorized contract type. Because the total final contract price could not be determined until contract completion, the final price was affected by the contractor's cost in terms of units supplied (hours), there clearly was not a firm-fixed priced contract. AFSC took the position that since each hour of effort was priced at a fixed rate, the contract could be classified as a firm-fixed-priced contract. The AFSC rationale was similar to the COPARS rationale, in that since each part supplied had a firm unit price, the contract can be classified as firm-fixed priced. **The COPARS argument for FFP classification is weaker than the AFSC position, because the part cost is only fixed until the next price increase, while in the FFLOE contract, the actual loaded hourly rate was fixed and not subject to increase.** Contract type mischaracterization results in incorrect reporting of contract type, eliminates audit surveillance, and increases opportunity for fraudulent conduct. Audit review later disclosed that the misclassification contributed to millions of dollars of excess cost due to waste, fraud, and abuse." (7:3) (14:1-6)

- "The situation on the COPARS contracts involves pricing arrangements in which neither the final price, nor the individual unit price is fixed. (7:3)

- **"Since the COPARS contracts are very definitely not firm-fixed-priced contracts, the use of an IFB solicitation is improper. FAR 14.104 states 'firm-fixed-price contracts shall be used when the method of contracting is sealed bidding, except that firm-fixed-price contracts with economic price adjustment clauses may be used if authorized in accordance with 16.203...'. In addition, it is evident the Government requirements cannot be described accurately and completely (FAR 14.101(a).** The COPARS contracts as solicited and written are in violation of these FAR clauses." (7:3)

- "It should be noted that the FFPLOE contracts with recoupment clauses had been classified as FFP contracts for approximately 10 years and were repeatedly approved as being legally sufficient by base/command JAGS." (7:3)

- "We believe that a workable legally sanctioned contract should be developed for COPARS use." (7:4)

2. Violation of federal acquisition regulations against cost-plus-percentage-of-cost contract.

a. <u>321SMW/LGC Challenge:</u> "Pricing techniques for subject format are not consistent with FAR 15, AFP 70-6, or ASPM 1 policy." (8:Atch 3/1)

- "THE BID SCHEDULE/PRICING STRUCTURE IS PROHIBITED. FAR 15.901 prohibits contracts to be priced by according to cost-plus-percentage-of-cost. The reason is that estimated profit is not necessarily the actual profit/net income, to contractors: rather, it is <u>potential income</u>, depending upon how well the contractor controls cost <u>in terms</u> of performance efficiency. Automatic application of predetermined percentages to actual costs without consideration to individual unit prices, quantities, elements of risk, delivery time, etc, does not provide proper motivation for optimum contract performance. Hence, the COPARS contract format violates this rule because it calls for predetermined percentages (discounts) to be applied to changing actual costs..." (8:Atch 3/1)

b. <u>SAC/LGC Rebuttal:</u> The COPARS contract is a firm-fixed-price contract and not an illegal cost-plus-percentage-of-cost contract. (12:2)

- "The contract format does not call for predetermined percentages to be applied to changing costs. Once the contract is awarded with price list and specified discount rate, all prices are firm fixed prices." (12:2)

c. <u>AFIT/LSO Expert Opinion:</u> The contract type is definitely not a firm-fixed-price contract but instead appears to be a cost-plus-percentage-of-cost contract (CPPC). (7:1)

- "The COPARS pricing arrangement appears to meet the four part test for classification as a CPPC system of contracting." (7:4)

- "The definition of a CPPC type of contract is detailed in the General Counsel's memo under the section titled 'Cost Plus a Percentage of Cost System of Contracting'." (7:4) (16:1)

- "A cost plus percentage of cost contract is prohibited and is determined by a four part test.

1) Payment is on a predetermined percentage rate

2) The predetermined percentage rate is applied to actual performance costs

3) Contractor's entitlement is uncertain at time of contracting

4) Contractor's entitlement increases commensurately with increased performance costs." (7:4)

- "The element of payment based on a predetermined percentage rate may be variously commission, fee, profit and in some cases overhead. A key factor is the contractor's ability to increase that element of payment based on a predetermined percentage rate." (7:4)

- "In the COPARS, this ability to manipulate costs appears to exist. First, the contractor can increase costs/profits by increasing the ratio of OEM (original equipment manufactured) to aftermarket parts. Constant surviellance by a very knowledgeable Government representative would be needed to eliminate this possibility. Secondly, the contractor may have the ability to time purchases to coincide with announced increases in manufacturer's catalog prices. Finally, **the contractor appears to be incentivized to purchase aftermarket items from vendors offering the largest discounts from published price lists, rather than from vendor's providing the best substitute at the lowest published prices.**" (7:4)

- "To satisfy the test of a predetermined profit percentage, the profit percentage does not have to be stated separately but may be combined into a percentage encompassing both profit and cost. In examples that I provided to the General Counsel, the profit percentage was combined with the operating expense cost, as it is in COPARS. Also, the issue examined by the General Counsel is remarkably similar to COPARS in that in both instances, CPPC is activated by the negative (or reverse-downward) application of a combined profit/overhead percentage to a ceiling price (in COPARS, the ceiling price is the published price)." (7:4-5)

- "The clauses in the FFPLOE CPPC contracts varied but included wording which had the effect of applying a percentage to unexpended base costs, thereby reducing payment below the contract ceiling. Reversing the contract wording led to my interpretation (affirmed by the General Counsel) that the Government was really paying

contractor cost plus a percentage for profit and expense recovery. As costs increased, both profit and recovery of expenses increased by a constant percentage. The same type of arrangement is present in the COPARS contract. Example:

| | |
|---|---|
| Catalog Price | $ 111.11 |
| Discount | 10% |
| Price | $ 100.00 |

The contractor must bid a discount price that allows recovery of operating expense and profit at an estimated volume. Therefore, without access to the contractor's records, assume profit is 5% or $5, operating cost is 5% or $5, and the dealer's actual parts cost is $90. The dealer cost is 81% of the catalog price, while profit and operating expense recovery are each 4.5% of the catalog price. An increase in the manufacturer's catalog price to $125 results in the following scenario:

| | |
|---|---|
| Catalog Price | $ 125 |
| Discount | 10% |
| Price | $ 112.5 |
| Computed Profit | $ 5.625 |
| Computed Expense Recovery | $ 5.625 |
| Computed Dealer Cost | $ 101.25 |

The dealer's profit and operating expense increases commensurate to the increase in costs. Profit remains at 4.5% of the catalog price. Under this pricing arrangement, not only does the contractor receive a profit bonus as cost increases, but the contractor also overrecovers operating expense as costs increase (which also increases profit). The CPPC pricing arrangement often results when attempts are made to create the appearance of a firm fixed price contract arrangement in situations where firm fixed prices cannot be accurately estimated and backdoor approaches are ultilized." (7:5)

- "The above example utilizes the manufacturers' parts pricing updates to illustrate the CPPC characteristics of the COPARS methodology. Even without the price increase concept, the contract appears to meet CPPC criteria. The contractor has the ability to substitute parts (alter the aftermarket/OEM ratio). This can increase costs, profit, and operating cost recovery, under the percentage criteria used in the contract. The contrac.or appears to be incentivized to increase costs to the Government. The more expensive the parts supplied, the greater the profit. The prohibition against CPPC contracting was enacted to prevent this type of situation." (7:5-6)

- "The contracting officer clause referenced...(by SAC/LGC)...does not appear to be sufficient defense against a CPPC determination." (7:6)

- "FAR 16.501 (c) discusses a price adjustment factor applied as a fixed percentage discount to a catalog price in effect on the date of each order. This is not a CPPC contract, and it is not identical to the COPARS situation because the contractor does not have the ability to increase prices and/or substitute higher priced parts, thereby increasing profits. Buyers execute a separate pricing action with each quantity ordered. The buyer is cognizant of the price in effect on the date of the order. The buyer is cognizant of the identification of each part ordered/received. The COPARS involves a loosely knit collection of many ill informed buyers (workmen), executing dozens of purchases daily. The validity of the catalogs is also an issue of discussion." (7:6)

3. COPARS acquisition process affect on a competitive contract award.

a. 321SMW/LGC Challenge: The SAC contract format does not result in effective contract award competition: (8:Atch 3/1-4)

- "PRICE ANALYSIS CANNOT BE ACCOMPLISHED BASED ON PRICE COMPETITION IN SUBJECT FORMAT. COPARS price analysis has historically been based upon 'competition' of discounts off of 'list' prices. This was with the underlying assumption that manufacturers' price lists are sold to the public in substantial quantities. However, this is a faulty conclusion. EFFECTIVE COMPETITION CANNOT EXIST with the current format because:

1) Offerors do not respond to expressed requirements (AFP 70-6, Section II). A contract "requirement" must be expressed/defined in the bid schedule in terms of specific items with respective firm quantities, or estimated quantities in the case of requirements or indefinite-quantity contracts...

2) The bid schedule prescribes sole-source manufacturers for many 'original equipment manufactured (OEM)' parts. The format does not clearly set out which specific quantities and items are OEM in the solicitation, and consequently the Commerce Business Daily Synopsis does not specify the intended sole-source requirements to identify suitable substitutes. Instead the government definitizes the quantities, and specific items to be purchased as sole-source/brand-name/OEM requirements after award via work orders. Thus, the COPARS format circumvents the requirement for a Justification Review Document under the faulty conclusion that price competition exists. Furthermore, the manufacturer has complete, unrestricted control of the price, both in the initial bid and in price changes, as often and as frequently as they desire.

3) In pricing each individual line item, offerors normally vary their mark up (profit or list-price-minus-discount), depending on the dynamic interaction of relative bargaining factors. However, the COPARS format not citing expressed items in the bid schedule, instead calls for the same mark up of a particular manufacturer, regardless of such factors as:

a) The business's relative strength in the marketplace, such as the number of buyers and sellers of the product, and the intensity of demand.

b) Quantities for respective line items (cheaper by the dozen).

c) Elements of risks in meeting delivery leadtimes and estimated costs.

d) The value of individual line items. The amount (off list price) that vendors are willing to discount normally depends upon the dollar value of the item. That is, the higher the value of the item, the more of a discount percentage, or less the mark up (indirect cost allocations plus profit) vendors are willing to accept. For example, a vendor may be willing to accept an 80% discount off list price of a $10,000 item, to get a $1,000 gross profit; whereas he or she may be willing to accept only a 50% discount on a $1,000 item to get as much as a $50 profit.

e) Variable direct and indirect costs, such as storage, shipping, and labor for individual items." (8:1-3)

b. <u>SAC Rebuttal:</u> "Competition does exist using the SAC standard contract." (12:3)

- "The bidders prices consist of list prices less proposed discounts. A comparison of bidders' prices (either line by line or by a random sampling of specific line items) will show which contractor has bid the lowest price. Applying the government estimated quantities will show which contractor has bid the lowest total price. Since award is based on competition between bidders, a bidder need not show adequate sales to the public." (12:1-2)

- "Section F3 of the contract shows rank of preference of categories of supplies. Competition does exist among dealers for OEM items, with price variance based on quantity and other discounts to the dealer, level in the distribution channels the dealer buys from and mark up by the dealer. The government gets the advantage of that competition by awarding COPARS on a competitive basis." (12:3)

- "Each bidder must apply all the pricing factors to determine the price list to the public and the discounts afforded to commercial customers. The government uses competition among bidders to receive the benefits of the contractor's pricing." (12:3)

c. <u>AFIT/LSO Expert Opinion:</u> Contract competition does exist "under Specific circumstances." (7:6)

- "Under existing criteria, the COPARS award procedures may, under specific circumstances, be considered as being a competitive award. The fact that catalog prices may be available does not support a determination that effective competition existed, nor that the price paid is fair and reasonable. In discussions with Air Force Audit Agency regional personnel, it appears that some bases may have adequate competition and can award COPARS contracts on that basis. However, bases located in low density areas may not have adequate price competition. We received information which disclosed that 3 contractors had approximately 58% of the Air Force's 64 COPARS contracts (information current as of July 1985). These 3 contractors also controlled 63% of the Air Forces COPARS annual cost. When major contractors compete for contracts using the existing criteria, awards can be made on the basis of adequate price competition." (7:6)

- "The situation may be less favorable at smaller bases. In these situations, a major chain such as NAPA may receive sufficient price discounts to preclude effective competition. Joe's Auto Parts may compete with NAPA, but the NAPA advantage may effectively eliminate Joe's Auto Parts from competition. This would create a situation in which one offeror has such a decided advantage that it is practically immune from competition. Therefore, the price paid by the Government may well exceed a fair and reasonable price that would be obtained under true competition." (7:6-7)

- "The contracting officer, would in this type of situation, need to perform price analysis to insure that the price is fair and reasonable. This could probably be done by comparing the bid price to prices obtained by those bases that do have adequate price competition. If bid prices exceed fair and reasonable prices, alternate procedures must be taken prior to contract award. This may include reaching an agreement on price based on the contractor's cost data (negotiating a price). References: FAR 15.804-3(b)(2)" (7:7)

4. Effect of the Catalog Pricing/Market Price concept in the COPARS contract format on fair and reasonable prices and in price competition.

a. 321SMW/LGC Challenge: Catalog pricing in the SAC standard COPARS contract format does not result in fair and reasonable prices or in price competition. (8:Atch 3/3-4)

> - "The COPARS format ...does not require offerors to provide a SF 1412 to support a claim for exemption to furnish cost or pricing data in accordance with FAR 15.804-3(e). In doing this, offerors would certify that the items on the price lists are in fact sold in substantial quantities to the general public. However, the fact that items listed in catalogs are sold to the public in substantial quantities is not sufficient to justify price when the discounts applied to those list prices (and in effect profit) vary greatly; price analysis must also ascertain that the price is discounted to the lowest degree of sales of substantial quantities to the public with similar delivery timeframes. This is not the same as the 'competing discounts' in one solicitation as is done in the COPARS format." (8:Atch 3/3)
>
> - "DoD FAR Sup 15.804-3(e) (3) states (that when the contracting officer grants an exemption from submitting a SF 1412), in anticipation of repetitive acquisition of a catalog item '...Government approval of the exemption claim shall set forth the effective period, usually not more than one year...' A copy of each exemption shall be sent to the Assistant Deputy Under Secretary for Acquisition, Office of the Under Secretary of Defense, Research and Engineering. COPARS does not address this." (8:Atch 3/3)
>
> - "Prices of spare parts via catalogs should be firm-fixed price, with the possible use of quantity discounts, or another authorized type of fixed-firm price arrangement." (8:Atch 3/3)
>
> - "Prices should be established for a specified time; suggested 12 months, but the COPARS standard format price lists to be changed at any time through the basic 12-month period and any exercised option periods, up to five years." (8:Atch 3/4)

b. SAC Rebuttal: "Effective price competition does exist for vehicle parts sales, and determines the prices." (12:3)

c. <u>AFIT/LSO Expert Opinion:</u> The COPARS "catalog price concept does not support the position that the price paid is fair and reasonable. Catalog pricing, in and of itself, does not support/confirm the existence of competition." (7:7)

- "In the COPARS issue, the catalog price concept does not support the position that the price paid is fair and reasonable. Catalog pricing, in and of itself, does not support/confirm the existence of competition." (7:7)

- "FAR 15-80403(c), establishes criteria for the use of catalog pricing in justifying that a price paid is fair and reasonable and that it qualifies for exemption from certification requirements." (7:7)

- "Awards made utilizing catalog 1412 criteria are not competitive awards, although a catalog award may be a competitive award if competition exists. Catalog pricing methodology assumes that since the general public is willing to buy significant quantities of an item at the stated catalog price (which would include provisions for quantity discounts), the price is fair and reasonable. Tests are prescribed in FAR 15-804-3(f), to aid in the determination. The catalog pricing issue is totally inapplicable to the COPARS issue." (7:7)

- "In COPARS, verification would probably disclose that most manufacturer sales would be at significant discounts from the catalog price. Dealer organizations are probably the manufacturer's major customers. The dealers then establish their own pricing structure, with quantity price discounts varying by both vendor and purchaser. Under these circumstances, no reliance can be placed on the underlying rationale for catalog pricing. This rationale is that since substantial quantities of an item are sold to the general public at the catalog price, the manufacturer's list price is an indication of a fair and reasonable price. As applied under COPARS, the rationale would be similar to buying an automobile and paying list price." (7:7)

- "When effective competition exists, and several major dealers bid for the Government's business, the price should be fair and reasonable. However, the fair and reasonable price results from effective competition and not from the catalog price." (7:8)

- "The mere existence of a manufacturer price list does not support the reasonableness of the price paid, nor does it support the existence of competition." (7:8)

## Grand Forks AFB Contract Award

The preceding outlines why the SAC standard COPARS contract format is a contentious basis for the contract bids that are central to the A-76 competition process. Nonetheless, Grand Forks AFB was forced to award a COPARS contract on the basis of A-76 in Mar 87. The low bidder was a NAPA autoparts dealer with an estimated annual contract cost of $517,270 compared to an estimated government cost of $562,528. (2) The line item comparisons are shown in Table 2.

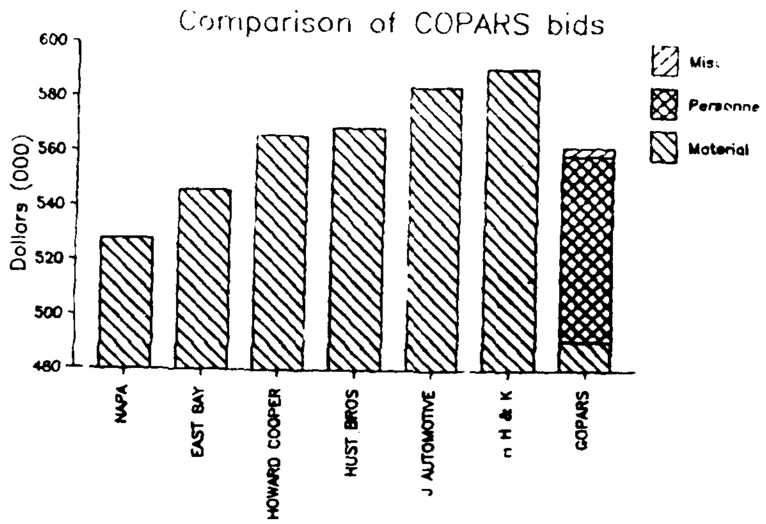
Table 2. (2:iii)

In-house vs. Contract Performance

| | |
|---|---|
| In-house: | |
| Personnel Costs | $ 68,231 |
| Material & Supplies | 491,616 |
| Other Costs | 3,384 |
| Cost of Capital | 291 |
| Total | $ 562,528 |
| Contract Performance: | |
| Contract Price | $ 528,366 |
| Federal Income Tax | (11,096) |
| Total | $ 517,270 |

Chart 3 compares all bids on the Grand Forks AFB COPARS contract. Personnel costs were the decisive element of the government's loss. As Section IV will discuss, the personnel costs are imposed by the A-76 rules even though, in the case of the Grand Forks AFB bid, there were no personnel additions. Beyond the personnel issue, an even more serious problem is that there is no certainty as to what the contractor's bids represent. They certainly don't represent a commitment to any specific quantity of parts or to a dollar expense ceiling for the contract.

Chart 3




Source: Compiled by the author based on 321SMW/LGC data

Contract Competition vs. Historical Costs

Historically, COPARS bids are not always accurate estimates of actual contract parts costs. Table 3 shows the estimated contract amount compared to actual incurred costs the year after the last COPARS contract awards at three similar SAC bases. While the winning contractor's estimate of cost at Ellsworth AFB was fairly close, the Minot AFB and Grand Forks AFB estimates were not.

Table 3.

COPARS Estimates vs. 1st Year Actual Costs ($)

| | Estimated Award | 1st Yr Cost | Difference |
|---|---|---|---|
| Grand Forks | 329,328 | 631,984 | 302,656 |
| Minot | 651,982 | 1,008,401 | 356,419 |
| Ellsworth | 554,400 | 538,512 | (15,888) |

Source: Compiled by the author based on 321SMW/ACB data

Eventually, Grand Forks AFB leadership was successful in convincing SAC/LGT and SAC/XPP to question the validity of using the SAC standard contract as a basis for comparing costs. An Apr 87 SAC/LGT/XPP message (19) to HQ USAF/PRRJ states:

> "To validate the expected benefits, historical data and an A-76 study were utilized. In addition, actual O & M costs were compared to the A-76 study. The end result was conflicting data. It appears that the current bid format used in COPARS contracts does not lend itself to a true projection of real-world costs. Therefore, the A-76 does not provide an accurate comparison of in-house vs. contract performance."

A review of actual operations and maintenance (O & M) costs and the A-76 cost study predictions tends to do more than just confirm that the "...bid format does not lend itself to a true projection..." An analysis of the data supports Grand Forks AFB regulatory concerns with the SAC standard contract. In fact, the next section of this paper will show that the SAC standard contract format has been historically consistent in allowing more expensive, less efficient contractors to win A-76 competitions against Grand Forks AFB in-house operations.

## SECTION IV

## HISTORICAL DATA

### The Rare Opportunity of Grand Forks

Experience at Grand Forks AFB, ND provides a rare opportunity to examine thirteen years of virtually clinical data comparing vehicle parts supply by contractors with supply by the government. Since 1975, vehicle parts supply at Grand Forks AFB has alternated about every two years between contractor- and government-operated parts stores. Fortunately, Mr Robert Davis, the Grand Forks AFB transportation maintenance officer, kept detailed vehicle maintenance performance and cost data for both COPARS and GOPARS operations.

Aside from Mr Davis' Grand Forks AFB statistics, relatively little GOPARS data exist within the Air Force. On the other hand, a lot of COPARS information does exist. Most Air Force bases have been buying vehicle maintenance parts exclusively through COPARS for at least the last ten years except for short interruptions due to contractual problems. Later in this section, the Grand Forks AFB GOPARS and COPARS data will be compared to COPARS data from very similar vehicle maintenance operations at Minot AFB, ND and Ellsworth AFB, SD.

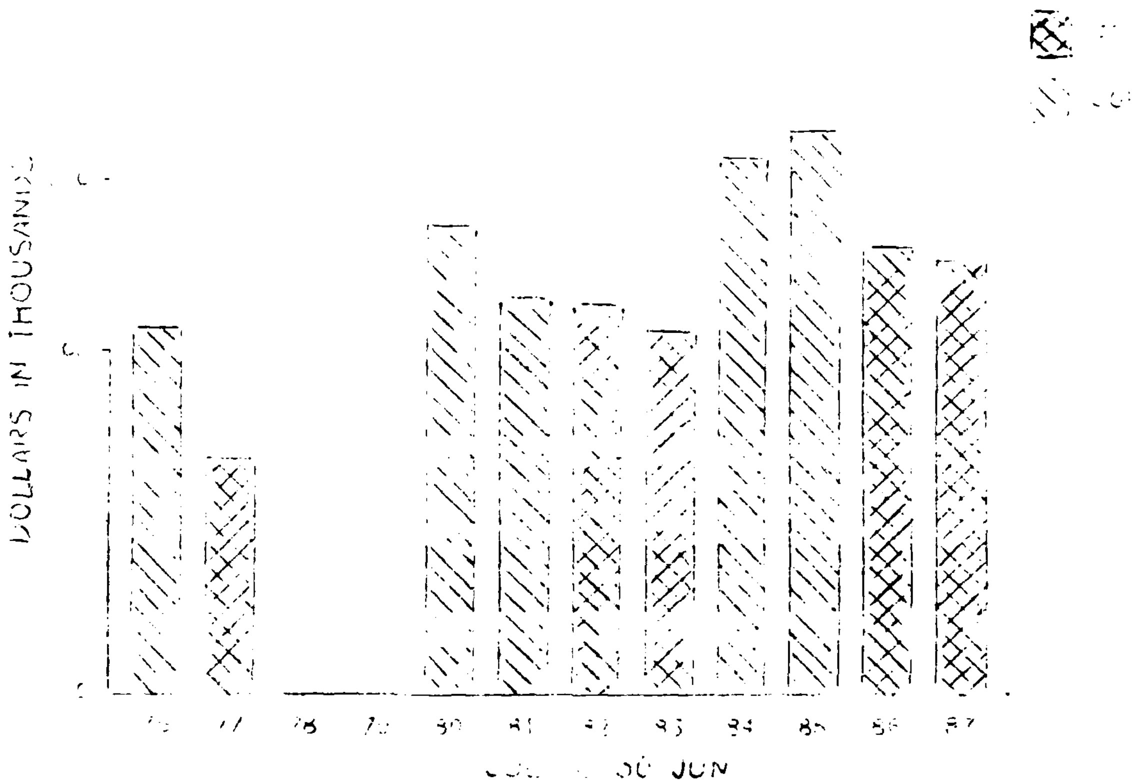
Grand Forks AFB data taken in isolation is still very significant because the data reveal the impact of COPARS and GOPARS on a specific vehicle maintenance function based on actual performance data. The data come from a fairly controlled environment. Personnel, equipment, and facilities did not significantly change during comparative periods. Therefore, it is reasonable to assume that a pattern of cost and performance differences from GOPARS to COPARS operations at Grand Forks AFB could be the result of alternative means of procuring vehicle parts.

The impact of COPARS and GOPARS can be measured at least two ways. One measure is to simply show the actual historical costs of vehicle parts under each operation. A second measure is the past impact of contractor and government operations on the efficiency of the vehicle maintenance function. The vehicle in-commission rate (VIC) is the basic measure of maintenance efficiency. There are also other measures of efficiency such as mechanic overtime and contract maintenance costs that should be studied to the extent data are available.

Cost of Parts. Grand Forks AFB records show historically that the installation spent less money for vehicle parts under GOPARS than under COPARS. Chart 4 depicts the historical pattern. Table 4 provides the actual cost figures portrayed in three performance periods for three different Grand Forks contractors from 1976 through 1985. The data show that government operation was between about $62,500 per year and $150,000 per year less expensive during comparable periods. The lower number is skewed by the year that a contractor's bankruptcy caused unusual expenses for the government. Table 5 shows the trend of higher costs under contract operation is continuing with the current contract which is costing the government an average of about $7,800 per month more than the last period of government operation.

Chart 4.

COPARS/GOPARS Comparison




Source: 321SMW/LGT

Table 4.

Cost of Vehicle Parts Over Similar Periods

| Period * | Type of Procurement | Cost of Parts | COPARS Difference |
|---|---|---|---|
| Mar 76 - Nov 76 | Contractor | $428,021 | |
| Mar 77 - Nov 77 | Government | $275,408 | +$152,613 |
| Jul 79 - Jun 80 | Contractor | $548,995 | |
| Jul 80 - Jun 81 | Contractor | $464,643** | |
| Jul 81 - Jun 82 | Government | $459,514 | |
| Jul 82 - Jun 83 | Government | $428,987 | +$ 62,569 AV/YR |
| Jul 83 - Jun 84 | Contractor | $631,984 | |
| Jul 84 - Jun 85 | Contractor | $661,987 | |
| Jul 85 - Jun 86 | Government | $525,564 | +$121,421 AV/YR |

* Data not available for Dec 77 - Jun 79

** Contractor default for bankruptcy

Source: Compiled by author from 321SMW/LGTM data

Table 5.

Comparison of Monthly Parts Costs of Current COPAR/Last GOPARS

| Month | Cost of Parts GOPARS | Cost of Parts COPARS | Month | COPARS Difference |
|---|---|---|---|---|
| Apr 86 | $44,554 | $47,862 | Apr 87 | + $ 3,308 * |
| May 86 | $49,297 | $49,847 | May 87 | + $ 550 * |
| Jun 86 | $26,195 | $54,352 | Jun 87 | + $28,157 |
| Jul 86 | $29,395 | $58,820 | Jul 87 | + $29,425 |
| Aug 86 | $36,658 | $61,698 | Aug 87 | + $25,040 |
| Sep 86 | $59,296 | $58,543 | Sep 87 | - $ 753 ** |
| Oct 86 | $52,032 | $50,844 | Oct 87 | - $ 1,188 |
| Nov 86 | $47,289 | $47,464 | Nov 87 | + $ 175 |
| Dec 86 | $59,885 | $46,000 | Dec 87 | - $13,885 |
| Jan 87 | $49,856 | | Jan 88 | |
| Feb 87 | $49,652 | | Feb 88 | |
| Mar 87 | $54,178 | | Mar 88 | |

* Slow parts purchasing because of using up government inventory
** End of fiscal year purchases

Source: Compiled by author from 321SMW/LGTM data

A fair concern might be whether the Grand Forks AFB parts cost data portray the total cost of government operation as allegedly does an A-76 comparison. A short synopsis of Grand Forks AFB GOPARS operation might help in this regard. Personnel costs are often the major A-76 determinant of "total" government cost. (15:20) At Grand Forks AFB total manpower was the same under GOPARS as under COPARS.

Under GOPARS, Grand Forks AFB trained mechanics in purchasing procedures and detailed them to the parts supply store. The detailed mechanics determined the parts required for bench stock and the items that would be bought as needed through local purchase and base supply. They bought parts the same way commercial repair firms do. They obtained telephone quotes to determine the best combination of availability and price. They placed orders against blanket purchase agreements established

by the base contracting office. Parts were normally picked-up at the vendors twice a day by transportation or supply personnel and, occasionally, by detailing other personnel such as those on temporary duty restriction. Under A-76 procedures, the manpower assigned to do the preceding is computed as part of the cost of government operation.

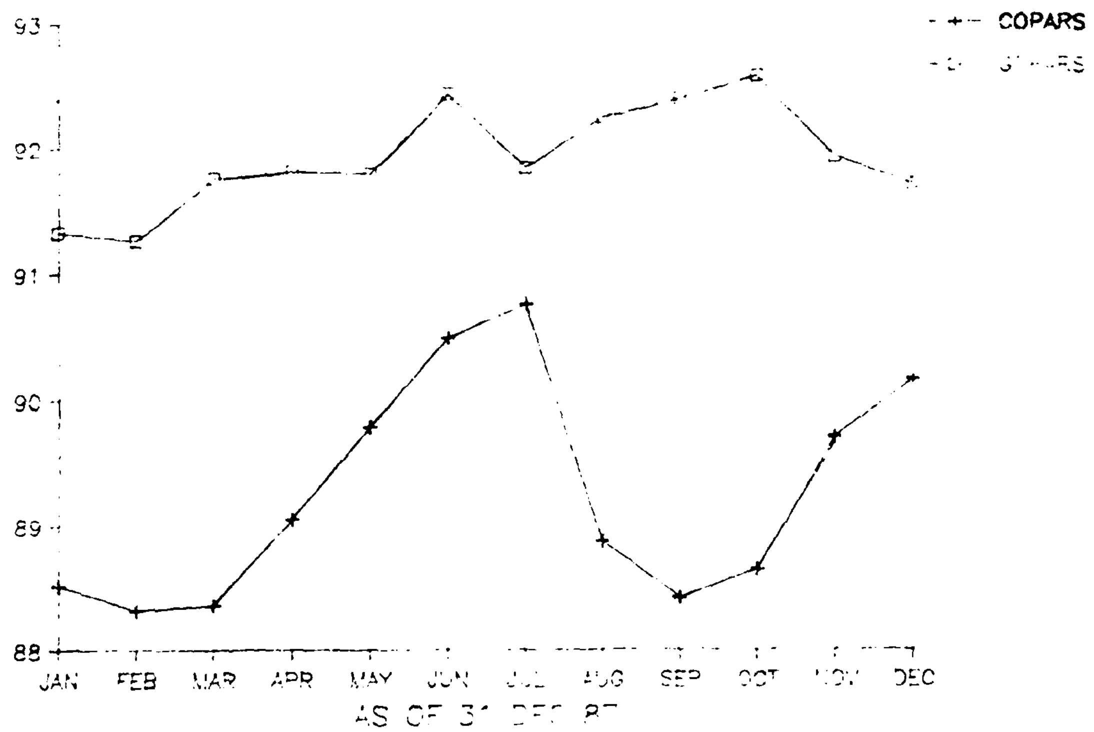
However, in reality, there was no additional manpower cost. Rather, there was a reallocation of manpower from one function to another. Furthermore, the reallocation improved overall operation because vehicle in-commission rates were significantly higher and mechanic overtime significantly lower under GOPARS than under COPARS even though two or three of the mechanics were purchasing parts rather than performing maintenance. As will be addressed later, it took more mechanics to produce less work under COPARS than under GOPARS because contractors were less responsive in supplying parts than was the government supply system at Grand Forks AFB.

For whatever reason, the fact is that the real, total cost of vehicle maintenance was indisputably higher under contract operation. COPARS cost vehicle maintenance more dollars for parts and produced fewer in-commission vehicles with more mechanics performing maintenance. Therefore, far from being charged for using existing manpower in an A-76 cost competition, Grand Forks AFB experience actually makes a powerful argument that contract operations should be charged for the government subsidizing contractor inefficiency under COPARS. The A-76 procedures distorted manpower data by charging the government for nonexistent manpower increases and by failing to consider the impact of lower in-commission rates and wasted manpower under contractor operation.

Impact on Vehicle Maintenance. Chart 5 graphically depicts the monthly average vehicle in-commission (VIC) rates at Grand Forks AFB since 1975. Table 6 provides the actual percentages. Interestingly, the data show the greatest differences between COPARS and GOPARS in-commission rates during the coldest months which are the hardest on equipment and during the months in which snow equipment is rebuilt in preparation for winter. These are the periods of greatest stress on vehicle maintenance activities.

Chart 5.

Grand Forks AFB Vehicle In-commission Rates




Source: 321SMW/LGT

Table 6.

Grand Forks AFB Vehicle In-Commission Rate

| YEAR | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1975 | 88.9 | 85.8 | 85.6 | 86.9 | 86.6 | 87.2 | 87.4 | 85.7 | 82.8 | 82.7 | 85.1 | 91.0 |
| 1976 | 89.3 | 89.1 | 87.9 | 86.6 | 89.9 | 88.7 | 89.1 | 86.7 | 84.0 | 84.5 | 86.3 | 85.7 |
| 1977 | 85.3 | 88.0 | 88.7 | 89.5 | 91.1 | 91.9 | 91.2 | 91.0 | 91.6 | 91.3 | 90.7 | 89.7 |
| 1978 | 89.2 | 90.2 | 92.6 | 93.1 | 91.6 | 92.3 | 90.8 | 92.0 | 92.5 | 90.9 | 92.7 | 93.2 |
| 1979 | 90.8 | 89.8 | 89.8 | 90.0 | 90.0 | 90.1 | 91.0 | 89.9 | 89.6 | 90.0 | 90.3 | 91.3 |
| 1980 | 90.0 | 90.3 | 91.3 | 89.3 | 90.0 | 91.2 | 91.7 | 90.9 | 91.6 | 91.4 | 91.9 | 90.6 |
| 1981 | 89.5 | 90.7 | 90.6 | 91.1 | 90.7 | 90.9 | 90.3 | 90.8 | 91.8 | 93.7 | 92.5 | 93.6 |
| 1982 | 92.5 | 91.8 | 90.7 | 91.8 | 92.5 | 93.3 | 93.2 | 91.8 | 91.6 | 93.1 | 93.3 | 93.2 |
| 1983 | 92.5 | 92.2 | 93.0 | 94.2 | 94.3 | 93.6 | 91.8 | 89.3 | 90.2 | 89.9 | 90.3 | 88.8 |
| 1984 | 90.0 | 88.4 | 89.5 | 89.4 | 89.6 | 91.8 | 91.1 | 89.8 | 89.6 | 90.2 | 90.8 | 90.5 |
| 1985 | 86.6 | 85.9 | 84.9 | 87.8 | 89.3 | 90.5 | 92.0 | 93.4 | 92.8 | 92.2 | 89.6 | 87.6 |
| 1986 | 88.5 | 91.3 | 91.7 | 90.0 | 91.3 | 93.4 | 93.6 | 94.5 | 94.1 | 94.3 | 92.8 | 93.0 |
| 1987 | 94.5 | 92.3 | 92.8 | 91.8 | 92.4 | 93.1 | 93.2 | 89.8 | 91.1 | 91.8 | 93.2 | 92.9 |
| AVG | | | | | | | | | | | | |
| GOPARS | 91.3 | 91.3 | 91.8 | 91.8 | 91.8 | 92.4 | 91.9 | 92.3 | 92.4 | 92.6 | 91.9 | 91.7 |
| COPARS | 88.5 | 88.3 | 88.4 | 89.1 | 89.8 | 90.5 | 90.8 | 88.9 | 88.4 | 88.6 | 89.7 | 90.1 |
| DIFF | 2.8 | 3.0 | 3.4 | 2.8 | 2.0 | 1.9 | 1.1 | 3.4 | 4.0 | 4.0 | 2.2 | 1.7 |

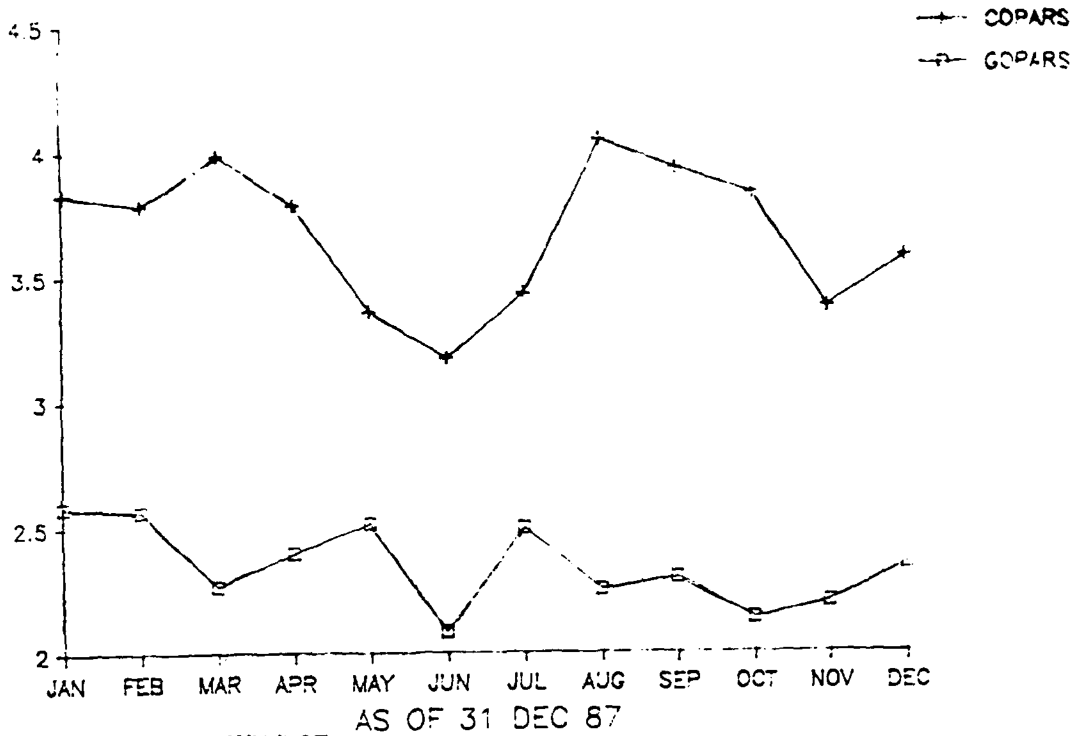
Source: 321SMW/LGT

**COPARS DATA SHADED**

A closer look at the Grand Forks AFB vehicle data provides additional insight into the higher in-commission rates under GOPARS. Charts 6 and 7 divide the percentages of vehicles out-of-commission into percentages of vehicles awaiting parts, called "vehicles deadlined for parts" (VDP), and vehicles awaiting maintenance, called "vehicles deadlined for maintenance" (VDM). Intuitively, one might expect the difference between government and contract parts suppliers to reflect in VDP. However, the data show that the difference reflects in both VDP and VDM. Furthermore, there is an apparent leverage effect since VDP in both types of operation runs consistently at one-half of the VDM rate.

Chart 6.

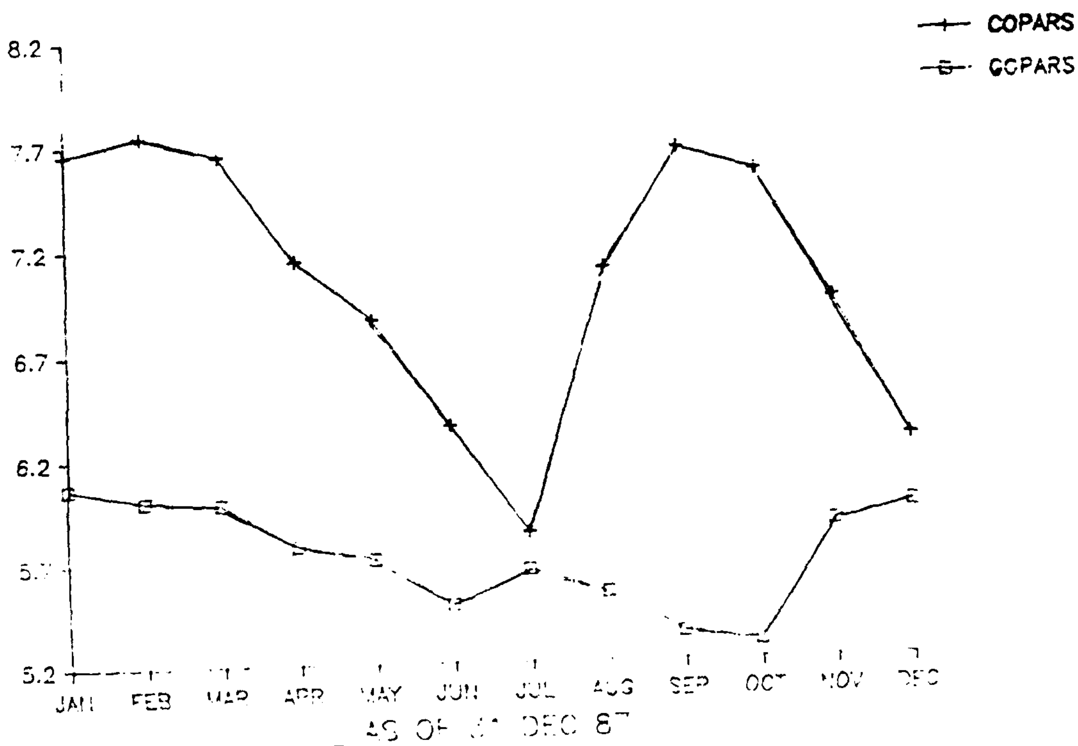
Historical Grand Forks AFB Average VDP




Source: 321SMW/LGT

Chart 7.

Historical Grand Forks Average VDM




Source: 321SMW/LGT

The VDP and VDM data suggest that the major difference between COPARS and GOPARS is the impact on the efficiency of the maintenance function. Mr Davis' records indicate that although Grand Forks AFB was spending less on parts under GOPARS, the base was buying at least as many parts at a cheaper unit cost. The difference between GOPARS and COPARS at this location was that GOPARS consistently put more parts into the hands of the mechanics faster than COPARS.

The preceding conclusion is supported by two additional pieces of evidence. First, as stated earlier, there were fewer mechanics working in the maintenance bays under GOPARS because two or three were constantly detailed to the GOPARS store. Therefore, GOPARS achieved better results with fewer people. The second piece of evidence is a little more subtle. Mr Davis accounted for VDP differently under GOPARS than under COPARS. Under GOPARS a vehicle was counted VDP the moment a required part was not available from bench stock. Under COPARS, the contractor was allowed a contractually specified period of time to deliver each part before a vehicle was counted VDP. Therefore, Charts 6 and 7 only begin to illuminate the efficiency issue. The COPARS VDM data actually contains some VDP because parts were not available for some of the VDM time. This is an important point because some have attempted to downplay Grand Forks AFB VIC statistics under GOPARS by focusing only on VDP compared to selected other bases' VDP (e.g. 9:1)

Value of Out-of-commission Vehicles. The higher GOPARS in-commission rates are significant in the case of Grand Forks AFB. The vehicle fleet at Grand Forks AFB averages about 1,000 vehicles. The approximate number of additional vehicles available each day under GOPARS can be calculated by

simply multiplying the "DIFF" line in Table 3 by ten. GOPARS provided Grand Forks AFB from 11 to 40 more vehicles every day. The average since 1975 has been 28 more vehicles per day under GOPARS than under COPARS.

In 1985, Booz-Allen and Hamilton Inc. completed a study entitled "Project IMAGE" (26) for Air Force Civil Engineering at a cost of over half-a-million dollars. Grand Forks AFB was among the bases surveyed by the study. The study provides insight into the cost of having vehicles out-of-commission. Among the many significant observations in the study are:

> - "...a shortage of General Purpose Vehicles (GPVs) has seriously constrained the time available for its (Base Civil Engineering) crews to perform work. The time lost, termed Transportation Related Nonproductive Time (TRNT) includes:
>
> Waiting for transportation to/from job sites.
>
> Dropping off/picking-up other crews instead of going directly to the job site.
>
> Returning to the shop or waiting because there is no vehicle at the job site with a bench stock of frequently used tools and materials.
>
> Idle crew time because the shortage of GPVs results in crews that are larger than necessary being assigned to jobs." (26:i-iii)
>
> - "Our analysis of work force time distribution indicated that 4.4 to 7.4 percent of the average worker's day is Transportation Related Nonproductive Time (TRNT), costing the Air Force $24.8 million annually." (26:ii)
>
> - "At most of the bases we surveyed, Civil Engineering personnel were dissatisfied with both transportation maintenance and the operator performed programs. Their dissatisfaction with transportation's vehicle maintenance stems from perceived long turn around for vehicles brought in for maintenance. However, our review of maintenance data does not indicate that BCE's GOVs are out-of-commission more than other squadrons'." (26:VI-1)

The "Project Image" study took a view contrary to the standard A-76 manpower guidelines. It recommended making more vehicles available even if it cost more in wages or other expenses because of the cost of lack of vehicles on base productivity. Among the alternatives assessed were increasing the fleet size and adding a night shift for vehicle maintenance, estimated to cost an additional $10,000 per year in mechanics' wages plus an added contractual expense to operate a night shift for COPARS.

While the "Project IMAGE" study examines the effect of vehicle shortages on Civil Engineering, it provides insight applicable to many base vehicle maintenance customers. Vehicle shortages cannot only degrade the mission, they result in support area inefficiencies that can be quantified in dollars. Although the amount of dollars attributable to inefficiencies will vary with factors such as the skill of the underutilized worker, the "Project IMAGE" study concludes that the cost is at least the pro rata value of the automobile required to maintain productivity. On average, the depreciated value of a government general purpose vehicle is $1,030 per year. (26:VI-5) Therefore, a very conservative estimate of the average value of the additional 28 vehicles per day historically provided by GOPARS at Grand Forks AFB is $28,840. This cost is among several costs that warrant consideration in COPARS/GOPARS A-76 cost comparison studies.

Other Measures of Efficiency. Periods of contractor operation at Grand Forks AFB have been characterized by high overtime, especially by military mechanics, and large expenditures for contract maintenance. For example, according to 321SMW/LGT data, Grand Forks AFB civilian mechanic overtime cost was less than $64 and military mechanics worked virtually no additional hours under GOPARS from Jul 81 through Nov 82. During the same period a year later under COPARS, civilian overtime was $5,000 and military

mechanics worked an additional 256.5 hours. During the ten months of COPARS in FY 85, with the contractor performing within contract specifications, Grand Forks AFB civilian mechanic overtime was $45,572 and military mechanics were working 12 hour shifts 6 days per week. Under GOPARS the next year, civilian overtime was $1,700 and the military mechanic workload was back to normal 8 hour duty days.

Contract maintenance is a means of supplementing indigenous maintenance when repairs by the government are not practical or economical. For example, contracts are normally awarded to local vendors for repainting, refurbishing, or repairing larger vehicles, etc. Contract maintenance diverts government work hours and shifts direct vehicle maintenance repair costs such as parts aquisition to a different category of expense. After filtering out unusual requirements that would actually distort the data in favor of GOPARS, research uncovered that under COPARS in FY 84 and FY 85 total contract maintenance expenses were $83,500 and $75,200 respectively. Under GOPARS in FY 86 contract maintenance expenses were $71,200 or essentially the same as under COPARS. Thus, based on all available data, no GOPARS expenses are being hidden in any other line item expenditure.

Grand Forks AFB Summary. The vehicle maintenance function at Grand Forks AFB has always performed better under GOPARS than under COPARS. The real cost of maintenance to include parts and personnel costs has always been significantly lower under GOPARS. The in-commission rate of vehicles has always been significantly higher under GOPARS than under COPARS. The data for the last 13 years are consistent and incontrovertible in supporting these conclusions. Unfortunately, only a limited amount of data has been retained by other Air Force bases that can be compared in a meaningful way to the Grand Forks AFB data.

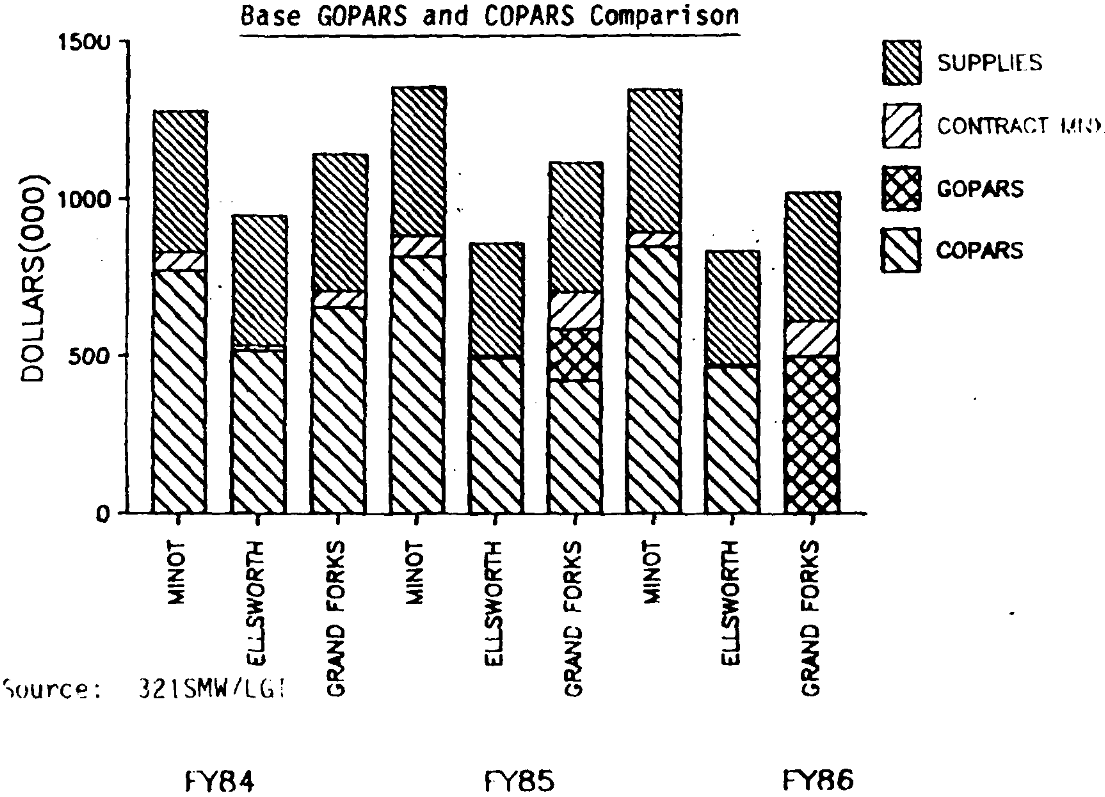
The Comparative Cases of SAC Dual Mission Bases

Grand Forks AFB is one of three SAC bases that supports both bomb wing and missile wing missions. The other two bases are Minot AFB, ND, and Ellsworth AFB, SD. All three bases have about 1,000 vehicles which accumulate over 8 million miles of travel per year in similar weather. As stated previously, Minot AFB and Ellsworth AFB have been buying parts through COPARS for several years.

Cost of Vehicle Maintenance Excluding Labor. Chart 8 compares all available cost data for maintaining the vehicle fleets at the three SAC dual mission bases for FY 84 through FY 86. The category of "supplies" has been added for completeness since the bases can purchase some parts through either base supply or COPARS/GOPARS. The data show that Minot AFB's COPARS has been considerably more expensive than Grand Forks AFB COPARS or GOPARS. On the other hand, Ellsworth AFB has consistently had the most economical operation of the three while using COPARS for parts supply.

Chart 8.

Base GOPARS and COPARS Comparison




Source: 321SMW/LG

A substantial portion of the difference in cost between Ellsworth AFB and Grand Forks AFB is the noticeable absence of contract maintenance by Ellsworth AFB. While it is difficult to exactly equate the Grand Forks AFB and Ellsworth AFB operations and, therefore, to precisely determine the reasons for differences in cost, part of the difference may be because of manpower. Grand Forks AFB and Minot AFB had 115 and 118 vehicle maintenance personnel respectively in FY 86. Ellsworth AFB had 131 vehicle maintenance personnel of which 118 were authorized.

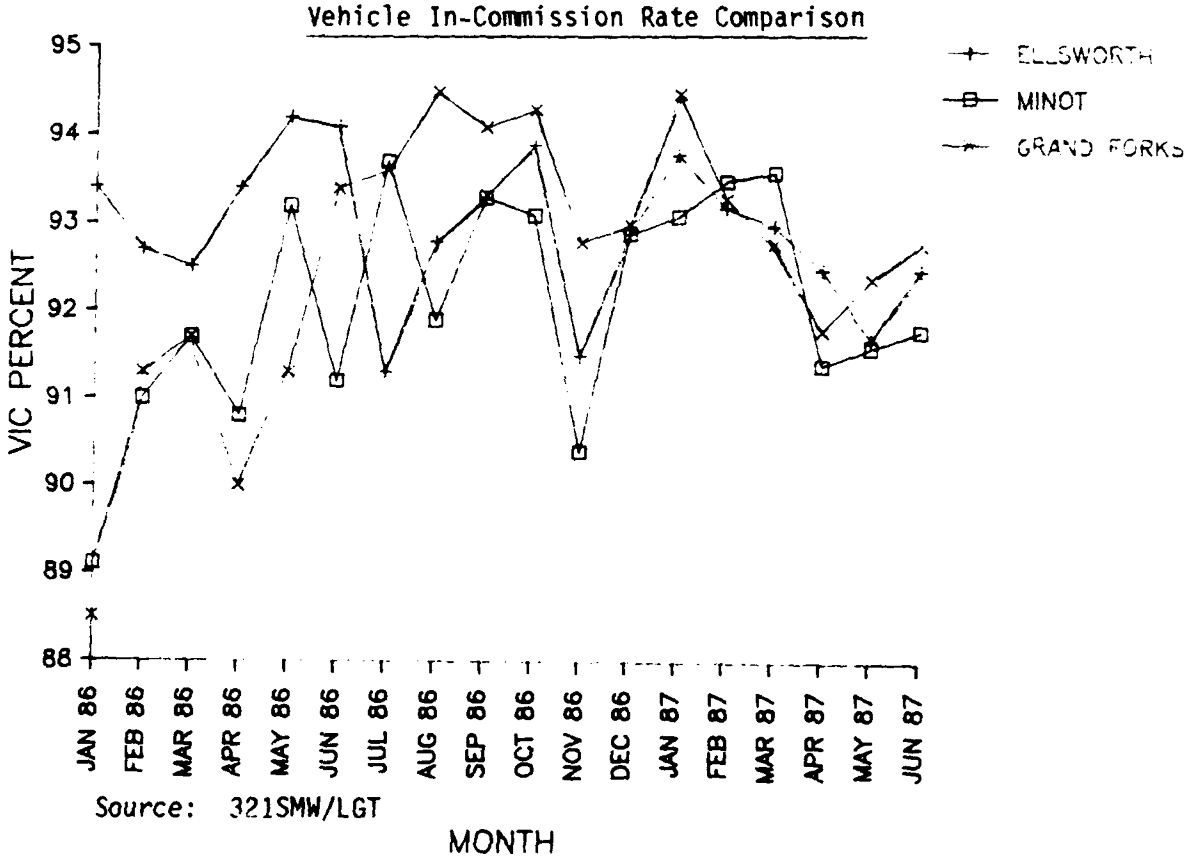
A possible explanation for Ellsworth AFB's lower parts and contract maintenance costs could be that the base is doing more maintenance in-house and rebuilding more parts rather than contracting-out maintenance and buying new parts through COPARS. While not available for this study, it is likely that if manpower costs were included in the comparison total maintenance costs, Grand Forks AFB vehicle maintenance costs would likely be considerably less than Ellsworth AFB costs.

Whether or not Ellsworth AFB's total costs are more than Grand Forks AFB's or Minot AFB's total costs could simply be a result of the quality of service provided by the contractor. Because SAC has been relatively inflexible in allowing individual bases to modify the standard COPARS contract, a major contract performance difference has been the integrity and industriousness of the COPARS store managers working for the contractor. A good store manager will work hard to provide the government economical parts in an expeditious manner. However, as addressed in Section III, there is no contractual incentive for such efficiency due to the cost-plus-percentage-of-cost contract that SAC has mandated for COPARS operations.

Impact on Vehicle Maintenance. The recent data shown on Chart 9 suggest the Ellsworth AFB's store manager is providing service comparable to that of the Grand Forks AFB's GOPARS manager. On the other hand, Minot AFB's relatively low average in-commission rate suggests that its contractor may not be providing as responsive a service as exists at either Grand Forks AFB or Ellsworth AFB.

Chart 9.

Vehicle In-Commission Rate Comparison




Source: 321SMW/LGT

Comparative Bases Summary. There are no data that support the assertion that COPARS inherently results in a cheaper or more efficient vehicle maintenance function. Available data show that Grand Forks AFB's parts cost has been less than Minot AFB's and more than Ellsworth AFB's. But, the data also suggest that Grand Forks AFB might operate significantly cheaper than Minot and Ellsworth AFBs' COPARS operation when manpower costs

are considered. The data also suggest that the COPARS standard contract allows significant latitude that could make a difference in cost and in vehicle in-commission rates.

## The Comparative Issue of Civil Engineering Supply Stores

The issue of contract latitude and resultant quality of contractor service under COPARS has been a more visible concern regarding a COPARS derivative, the Contractor-Operated Civil Engineering Supply Stores (COCESS) concept. The perceived success of COPARS in the 1960s led the Air Force to develop COCESS in the early 1970s. COCESS operations were to supply hardware store type items to base civil engineering in the same fashion that COPARS operations were to supply neighborhood auto parts store products to base vehicle maintenance. (23:i) Both COPARS and COCESS are basically procurement operations. The cost of supply items amounts to between 90 and 95 percent of expenses for both. Even though the government operations that COPARS and COCESS replace involve minimal manpower, they have significant impact on the productivity and efficiency of the major functions that depend on their supplies and on the many customers that depend on the final product. (18:1-4)

COPARS and COCESS operations are essentially the same concept. The Air Force awards one-year contracts with renewable options to the lowest bidders responding to invitations for bid (IFBs). The contracts give the COPARS and COCESS contractors exclusive rights to sell the Air Force frequently used supplies purchased by the contractor from other sources.

In the alternative government operations, i.e. GOPARS and GOCESS, government employees buy supplies direct from commercial firms such as auto parts stores, hardware stores, and lumber yards. In a government

operation, the government employees would shop for the best value and, usually, although not always, purchase Air Force supplies from local vendors.

The Government Accounting Office's (GAO's) Defense Audit Agency, DoD, and the Department of the Air Force have generally addressed COPARS and COCESS issues together in the same reports and policy statements. One such document is GAO's 1981 report to Congress entitled "Military Contractor-Operated Stores' Contracts are Unmanageable and Vulnerable to Abuse." (23) The cover of tnat reports states:

> "Contractor-operated base stores were once envisioned as a practical and cost-effective means for buying vehicle repair parts and civil engineering supplies, but are now plagued by pricing irregularities, contract abuses, and repeated allegations of fraud.
>
> The Department of the Air Force, despite concerted efforts over the last several years, has been unable to develop a workable store contract for purchasing the thousands of low-cost, commercial items its bases need daily.
>
> GAO thinks the Secretary of Defense should discontinue the use of contractor-operated stores. Workable, cost-effective alternatives such as Government-operated stores should be used to establish purchasing control."

Six years later, the COPARS/GOPARS and COCESS/GOCESS issues are still under contention. However, the Air Force has had wider experience with GOCESS than with GOPARS. Perhaps the GOCESS experience has facilitated an apparent consensus within the Air Force about desiring to convert from COCESS to GOCESS. Air Force Major Commands (MAJCOMs) are requesting authority to convert from COCESS to GOCESS under the auspices of the Department of Defense Model Installation Program. Among the rationale submitted with the proposal are the following:

- From the Military Airlift Command (21:1-2):

"Disadvantages of COCESS: (1) Except for defaulting, no avenue to force contractor to meet required delivery dates (RDD), (2) Very high national price list charges from lack of competitive bids and changing requirements for material...

Overall cost of GOCESS...is no greater than COCESS...

Expected benefits:

A. Now takes 46 and 79 days to fill 85 percent of material for average job order or work order respectively. (1) With GOCESS...material response times will be cut more than 75 percent. (2) Using GOCESS...Kirtland and Tinker AFBs receive over 99 percent of all material in two weeks...

B. No more contractor defaults...

C. Buy material at the best price

D. Contractor turnover and Admin headaches are deleted.

E. GOCESS...will increase business transactions in the local area, good for public relations and material response times."

- From the Tactical Air Command (22:1-2):

"Contractor operated civil engineering supply stores (COCESS) were established in the mid-1970s in an attempt to improve responsiveness by having a single supply source. The COCESS initiative has not worked satisfactorily. At four TAC bases (MacDill, Homestead, England, Luke) the government terminated the COCESS contractor for cause. At the bases where TAC still has COCESS contracts the average days to get parts for routine work, planned work orders and military family housing (MFH) maintenance far exceed TAC goals, and the responsiveness of government operations. These delays in getting parts/supplies directly affect productivity and responsiveness of the civil engineering workforce and service provided the customer..."

- From the Strategic Air Command (19:Atch/2):

"HQ SAC/DER would elect GOCESS as their standard mode of performance. Their justification is summarized as follows:

(a) The Civil Engineering Material Acquisition System supports GOCESS.

(b) Decentralization allows local purchase, which is cheaper and faster, providing better support to the customer.

(c) Allows BCE to accomplish the job more efficiently."

One could go back through the preceding messages and substitute "GOPARS" for "GOCESS" and "COPARS" for "COCESS" without significantly altering the logic. It is difficult to understand why any level of the Air Force would entertain installation commander discretion to choose GOCESS and not tolerate a similar discretion to choose GOPARS.

## SECTION V

## CONCLUSION

Expert opinion and historical data summarized in this study validate GAO concerns raised over six years ago. The 1981 GAO report identified serious potential problems concerning contracting-out the vehicle parts supply function on Air Force bases. There is now hard evidence supporting the GAO concerns that contractor-operated parts stores may be costing the government hundred of thousands of dollars per contract and adversely affecting the productivity of several functions on every Air Force installation.

It appears that a current review of COPARS and COCESS may result in the long overdue DoD admission that current policy with regard to the parts supply function must change. However, although the bureaucracy may be ready to admit that past COPARS decisions are grounded on a flawed process, it appears it will continue to insist on to imposing COPARS operations and a faulty COPARS contract on SAC installation commanders. It is time for an independent voice to question such judgement.

## SECTION VI

## RECOMMENDATION

Air University can shed light on the GOPARS issue by sending this study through Air Force channels for validation. Upon validation of the study, the Air Force should give installation commanders the latitude to keep the vehicle parts supply function in-house or contract-out as the situation warrants. The Air Force should also take action to completely revise the standard COPARS contract and determine whether potential problems similar to those of COPARS exist in other areas of contracting-out.

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